ENGINEERING NEWS-RECORD

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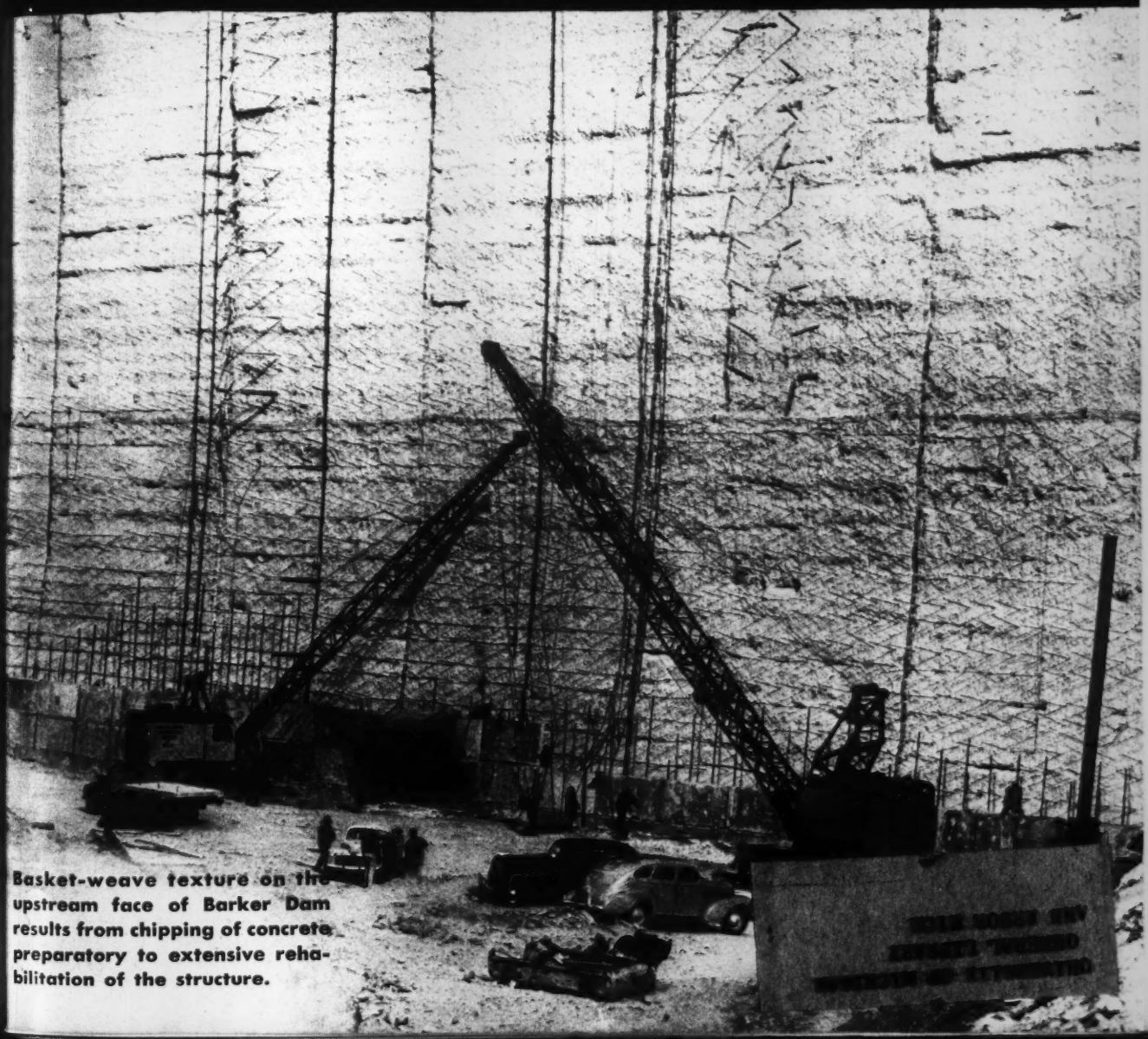
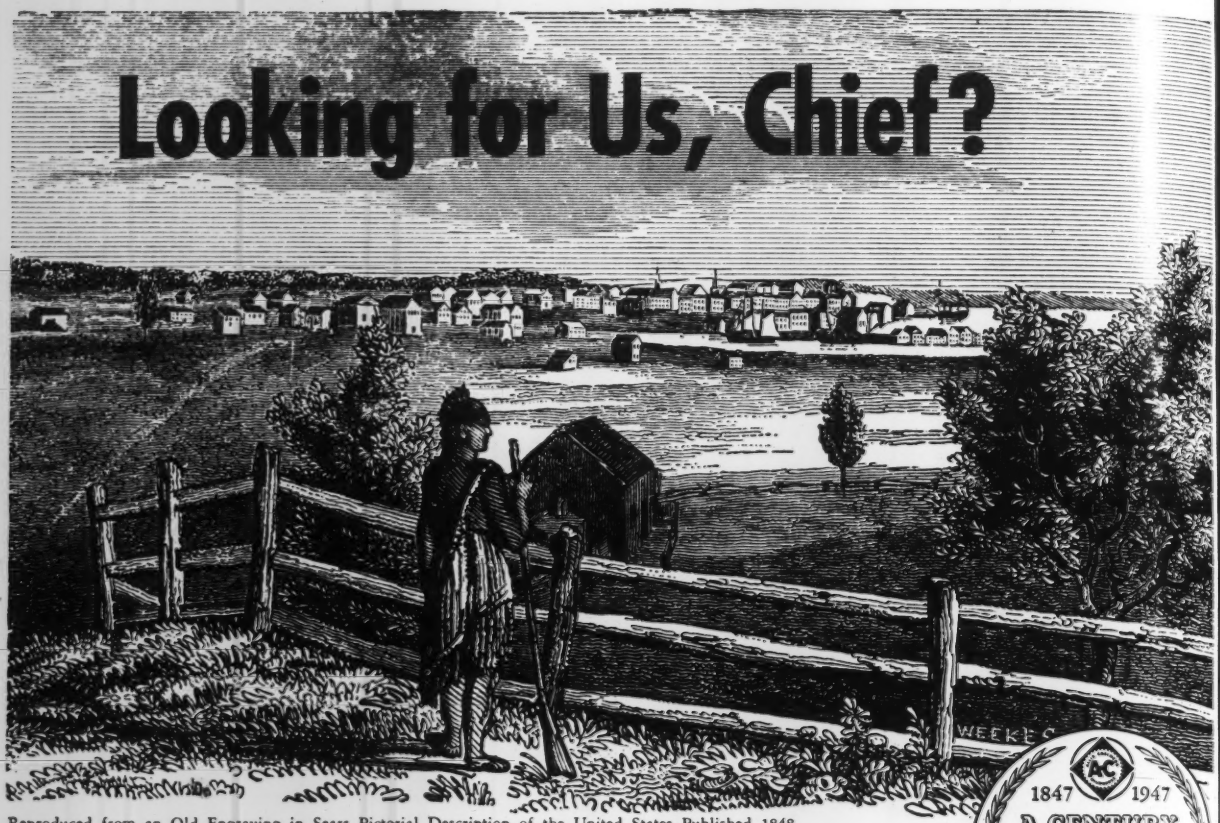


Basket-weave texture on the upstream face of Barker Dam results from chipping of concrete preparatory to extensive rehabilitation of the structure.

Looking for Us, Chief?



Reproduced from an Old Engraving in Sears Pictorial Description of the United States Published 1848

1847 1947
A CENTURY OF SERVICE to Industry THAT MADE America Great

WE WERE HERE WHEN MILWAUKEE WAS SPELLED M-I-L-W-A-U-K-I-E!

MILWAUKIE, 1847 — A frontier settlement celebrates its first birthday . . . and a small factory turns out its first product—*millstones.*

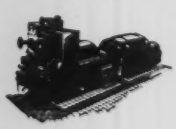
One-hundred years later, in 1947, this progressive city salutes its oldest heavy machinery manufacturer—Allis-Chalmers . . . *one of the Big 3 in electric power equipment—biggest of all in range of industrial products!* Today, practically every U. S. manufactured product is aided in its course by Allis-Chalmers equipment.

In building a *better* millstone, crusher, turbine, motor—Allis-Chalmers has earned the respect and confidence of men in every industry.

We are proud to serve this basic pattern of American life: Power and Electrical — Mining and Rock Processing—Ferrous and Non-Ferrous Metal Producing — Metal Working — Food — Textile — Chemical — Petroleum — Wood — Rubber — General Manufacturing — Transportation — Construction — Public Works — Agriculture — National Defense. ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN.

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment
Biggest of All in Range of Industrial Products



Power Generation . . .

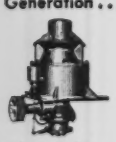
Electrical Distribution . . .

. . . and Control Equipment

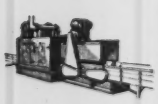
Texrope V-Belt Drives

Centrifugal Pumps

Blowers & Compressors



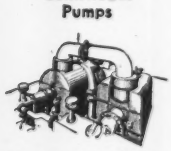
Crushing, Cement, Mining Equipment



Pulp, Paper, Saw-Mill Equipment

Food, Milling & Extraction Equipment

Chemical & Pyro-Process Equipment



Marine & Defense Equipment

Farm & Industrial Tractors

News of the Week

ENGINEERING NEWS-RECORD • MAY 8, 1947 • VOLUME 138 • NUMBER 19

New St. Lawrence Seaway bill put before Senate

Introduced by Senator Vandenburg, measure would approve 1941 U. S.-Canada agreement and impose tolls on ships using waterway

The St. Lawrence Seaway project gained the most important backing of its long and controversial history last week when Senator Arthur Vandenberg introduced a bill calling for approval of the 1941 agreement between the United States and Canada for its construction.

The new measure, backed by a long list of co-sponsors, is expected to encounter little delay in reaching the Senate floor. But a quick check of party leaders indicated that the proposal stood little chance of passage in the economy-minded House, at least during the present session of Congress.

Tolls to be collected

Senator Vandenberg's version of the agreement also directs the State Department to enter into negotiations with the Canadian government for the imposition of shipping tolls on the seaway. Senator Vandenberg revealed that the two governments already have held informal conversations regarding tolls and that the Canadians have indicated their approval thereof. (See *ENR* May 22, 1941, vol. p. 824, for detailed description of project and agreement.)

The tolls, he added, would be applied only to those segments of the river deepened as a result of new work, and not to the 14-foot channel already in operation.

Also omitted from the Vandenberg bill is the provision limiting diversion through the Chicago River—stricken from last year's seaway bill by an amendment proposed by Sen. Scott Lucas. Controversy over this proposal tied up the measure for some time in the Senate Foreign Relations Committee during the last session of Congress.

The Vandenberg bill also has been referred to the Foreign Relations Committee, of which the measure's sponsor is chairman. The committee contemplates no hearing on the bill, a majority of members evidently feeling that last year's lengthy sessions thoroughly covered all phases of the seaway project.

Two bills in House

Two bills approving the 1941 agreement, sponsored by Reps. Blatnik of Minnesota and Kilburn of New York, were introduced in the House early this year. The Public Works Committee, to which both were referred, has scheduled no hearings.

President Truman, who has endorsed the seaway proposal in several speeches, withdrew the formal U. S. Canadian treaty of 1932 on the project early last month (*ENR* April 17, vol. p. 560). But the treaty actually was killed in 1934 when the Senate approved it by a 46-42 vote, but failed to muster the necessary two-thirds majority for ratification. The 1941 agreement, proposed as a means of clearing this hurdle, stirred considerable debate after its approval by President Roosevelt. Since the agreement required only a majority vote of both the Senate and House for adoption, it was criticized in some quarters as an infringement upon the Senate's treaty-approval powers.

Nonetheless, the agreement was considered and approved by the House Rivers and Harbors Committee in 1941, though it never came to a vote on the floor. It suffered a similar set-back in the Senate last year after the Foreign Relations Committee reported favorably upon the proposal.

Canada will maintain steel and timber controls

Canada is to maintain its controls over steel and timber until supply can meet demand. Legislation to this effect was passed by the Canadian House of Commons on April 25 following a statement by C. D. Howe, Minister of Reconstruction and Supply, who explained that steel production is 20 percent higher under controls.

Mr. Howe said that the 1947 production of nails in Canada will be 1,400,000 kegs, with demand not far behind.

U. S. charges monoply in chlorine equipment

Charging conspiracy to restrain and monopolize production and distribution of chlorinating equipment, action was taken by the Department of Justice against nine cooporations and individuals in the U. S. District Court at Providence, R. I., on May 1.

The defendant corporations are: Wallace & Tiernan Co., Inc.; Wallace & Tiernan Products, Inc.; Wallace & Tiernan Sales Corp.; Novadelagene Corp. and Industrial Appliances Corp., all of Belleville, N. J.; Schutte & Koerting Co. of Philadelphia; and Hellige, Inc., of Long Island City, N. Y.

The same firms and persons were indicted on a similar charge last November, but the indictment was dismissed on the ground that the grand jury was illegally constituted.

Nevada will install Hoover Dam generator

Legislative bills calling for the installation of a state-owned generator at Hoover Dam and state acquisition of Basic Magnesium Industries in southern Nevada have been signed by Gov. Vail Pittman of that state.

Both authorize the Colorado River Commission to take the the steps necessary to carry out provisions of the bills.

Tentative agreements call for installation of the generator by the Bureau of Reclamation, its cost to be repaid over a 20-year period from revenue obtained by power sales. The state has been allotted space for such a generator since the signing of the original Hoover Dam power distribution agreement.

Under the second bill the commission is granted power to negotiate for the purchase.

NEWS IN BRIEF

In telegraphic form, here are latest news developments on the engineering and construction front during the week.

Construction—Central Foundry division of General Motors Corp. has been authorized to build a $1,900,000 foundry for gray iron castings at *Defiance, Ohio.* . . . Howard Smith Paper Mills, Ltd., is to spend $3,500,000 in the next two years expanding its plant at *Cornwall, Ont.* . . . Ten contracts have been awarded for a new electrical power plant at the State Normal University, *Carbondale, Ill.* . . . 13 projects involving expenditure of $3,913,825 have been developed as part of a uniform school construction program at *Victoria, B. C.* . . . The Gazette and Republic at *Phoenix, Ariz.*, have let a $1,000,000 contract to Del E. Webb Construction Co. covering the erection of a new newspaper plant.

Housing—A 182-unit apartment village to cost about $1,500,000 is planned for *Knoxville, Tenn.* Cooper & Perry is the architects-engineer. . . . If property can be rezoned, the Al-Hur Corp. plans an apartment development for 400 families in *Amherst, N. Y.*, near *Buffalo.* . . . The first in a series of new home subdivisions for *Atlanta, Ga.*, is to start soon with the building of 20 bungalows on Courtney Drive by John R. Lockwood and H. W. Plumket. . . . Gov. Robert G. Bradford of *Massachusetts* has asked for the approval of a comprehensive housing program which he said could provide 16,000 new homes for veterans within a year.

Miscellany—*Ohio* Legislature has enacted a bill pledging the state to co-sponsorship with the federal government in the erection of a $350,000 dike system to protect the shores of Reno Beach and Howard Farms, near Toledo, from the waters of Lake Erie. . . . Public ownership of the Boston Elevated Railway and a program of system extensions to include many municipalities within the greater *Boston, Mass.*, area, as recommended by the special committee appointed to study transportation problems within the system, have been approved by Edward Dana, president and general manager. . . . Construction of sewer projects to cost $10,700 has been authorized at *Roanoke, Va.* . . . This summer planes of the Royal Canadian Air Force will carry out aerial photographic survey work in all parts of the dominion. The program involves coverage of some 700,000 sq. mi. of preparatory work for federal mapping services.

STEEL STEALING

Kentucky has collected $2,900 for bridge steel stolen last year, J. Stephen Watkins, Commissioner of the State Department of Highways, has announced.

The old Salt River bridge at West Point, replaced by a new 4-lane span, was dismantled to be used elsewhere by the department and subsequently disappeared.

Investigations conducted by the highway patrol resulted in charges against one man for the theft and against the proprietor of a scrap metal agency for receiving stolen goods.

Both men entered pleas of guilty and were given 6 months suspended sentences after agreeing to full restitution.

New York State to give planning aid for sewers

State planning aid for sewer systems and sewage treatment projects in N. Y. State is now available, under provisions of a bill recently signed by Governor Dewey. Such aid was recommended by the Special Committee on Pollution Abatement of the Joint Legislative Committee on Interstate Cooperation, of which Harold C. Ostertag is chairman.

Assemblyman Ostertag urges all localities in need of such projects to undertake planning programs and avail themselves of the financial aid offered by the state. Hundreds of cities, towns and villages are in need of such systems, he said, basing his statement on studies made in 1946 by the Pollution Abatement Committee. Authorized by the legislature, Mr. Ostertag said these studies will continue.

Under the terms of the act, the state will extend aid up to half the cost of plans for sewer and sewage treatment projects, but not to exceed two percent of the construction cost of such projects.

Canadian engineers and lawmakers to cooperate

At a joint meeting of members of the Canadian parliament and representatives of major engineering and scientific societies in the dominion, held in Ottawa April 25, it was decided to set up a joint parliamentary and scientific committee like that which has existed in Great Britain for more than ten years.

The purposes of the committee will be to give engineers and scientists access to the members of the parliament to submit scientific proposals of national interest and to afford members of parliament a means of obtaining informed opinions and accurate information on scientific and engineering matters which arise in the course of their duties.

An interim committee of ten members was oppointed, five being members of parliament (representing all the major political parties) and five representing engineering and scientific societies, including the Engineering Institute of Canada. The meeting was presided over by George McIlwraith, parliamentary assistant to Reconstruction Minister Howe. It was addressed by Prof. J. D. Bernal of England, who described the work of the British joint parliamentary committee.

Snake River power work to start after survey

Work on the initial phase of a Snake River power development program estimated to cost $20,000,000 over a 3-year construction period will begin immediately upon conclusion of field survey work.

C. J. Strike, president and general manager of the Idaho Power Co., Boise, said plans call for completion of the Oxbow development 50 miles north of Huntington, Ore. The company plans to install a capacity of about 125,000 kw. in four generator units, requiring construction of a new power house, diversion dam, an additional tunnel and enlargement of the present tunnel.

Surveys and preliminary engineering and design work are being done by the company's engineers.

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Building trades support referee for jurisdictional strike settlements

AFL group affirms faith in 10-year-old system at Washington meeting—construction labor unrest continues

Reaffirming faith in its 10-year-old referee system of settling jurisdictional disputes, the executive council of the American Federation of Labor's Building Trades unions last week rejected an elaborate plan, submitted by a board of experts, for limiting jurisdictional strife. The action was the outcome of what had been expected to be a contentious session of the executive council at Washington—a session convened to discuss complaints of the Laborers' unions over claims of Carpenters' union members that their's was the right to carry lumber on construction jobs.

And, while AFL leaders debated, reports of strikes continued from all parts of the United States.

The group affirmed the continuance in office of William M. Hutcheson, president of the carpenter group, as permanent referee in inter-union disputes, except in matters concerning his own followers, when one of two alternates, to be appointed by AFL President William Green, will serve.

As for jurisdictional disputes involving a building trades and a non-building trades union—such as a current difference between the carpenters and the National Association of Machinists over which group can claim allegiance of millwrights—these disputes will be handled henceforth by the AFL Executive Council, instead of by the Building Trades Council.

No action on plan

The council failed to act—and thereby rejected—the report submitted by three experts whom it had commissioned to make recommendations for lessening jurisdictional battles. The special board, which included Paul H. Douglas, University of Chicago economist; Sumner Slichter, Harvard economist, and William H. Davis, former chairman of the War Labor Board, suggested a 3-point program for settlement, starting at the local levels, and working up (in case of inability to reach solutions) to the referee and a board of appeals.

Under terms of the plan, the parent union involved in such a dispute would be required to keep its men at work during arbitration at the various levels. Failure to do so or to provide replacements, would confer the right on contractors to hire non-union labor.

In New Jersey, Gov. Alfred E. Driscoll threatened to propose state legislation against jurisdictional strikes unless the AFL could make its machinery work. Targets of the threat were sporadic jurisdictional strikes that have hurt a $40,000,000 building program in Northern New Jersey. The carpenters, who had fomented the greatest difficulty over their claims for the right to unload lumber from trucks, agreed last week to return to work pending arbitration.

Enactment of an anti closed-shop law by Iowa raised to 13 the number of states which now prohibit this provision in employer-labor contracts.

Labor experts pointed out, too, that no use has yet been made of the much-heralded voluntary arbitration plan, signed by the AFL and the Associated General Contractors and announced by the White House with considerable fanfare on Feb. 1 *ENR* Feb. 6, vol. p. 181). Joint committees which would make decisions in three branches of the industry under this agreement have not even been appointed.

17,000 strike at Detroit

Biggest work stoppage reported during the week occurred at Detroit, Mich., where about 17,000 building trades workers—led by some 9,000 carpenters—walked off their jobs May 1.

Among the projects halted by the walkout were an estimated 10,000 homes, and many major industrial construction jobs.

The carpenters, who are now paid $1.82½ per hour, seek an increase of 42½ cents an hour; painters seek 25 cents more; and laborers sought an overall increase of 22½ cents.

In Philadelphia, Pa., more than 1,000 members of the AFL-affiliated bricklayers union walked off their jobs at the same time, asking a wage increase of 35 cents an hour. Similar demands were made at Dayton, Ohio.

Some settlements were reported—all on the basis of increases in pay. These included agreements between contractors and workers at Omaha, Neb., Grays Harbor, Wash., Dunkirk, N. Y., and Boston, Mass., where laborers returned to work after receiving a 15 cents per hour boost.

Union Pacific to build an $8 million tunnel

The Union Pacific Railroad will build an $8,000,000 tunnel between Altamont and Aspen, Wyo. Work will start in 30 days. The 6,700-ft. tunnel will be the longest on the system, cutting through a spur of the Uintah Mountains dividing the Green River and Bear River drainage. It will be parallel to and one-fourth mile north of the single-track 5,941 ft.-long Aspen Tunnel, which was completed 46 years ago. The new tunnel will carry westbound traffic only. Trains eastbound will continue to use Aspen Tunnel.

When the new bore is completed, it will eliminate the only stretch of single track on the Union Pacific between Omaha, Neb., and Salt Lake City, Utah.

W. C. Parkins, Union Pacific chief engineer, will direct the project.

Power Station Design—*New architectural treatment for a power substation is reflected in the design of this structure, to be built for the Pacific Gas and Electric Co. in San Francisco, at a cost of about $4,800,000. It is part of a $300,000,000 five-year construction program recently announced by the utility. The station will be 275 ft. by 140 ft., by 60 ft. high.*

DEVELOPMENTS BEYOND U. S. BORDERS

Digested from reports by Engineering News-Record correspondents and the McGraw-Hill World News Bureau

Biggest Indian state announces 15-year power and irrigation program—British build power station in mud flats near Bournemouth, England—Six-runway airport for Buenos Aires

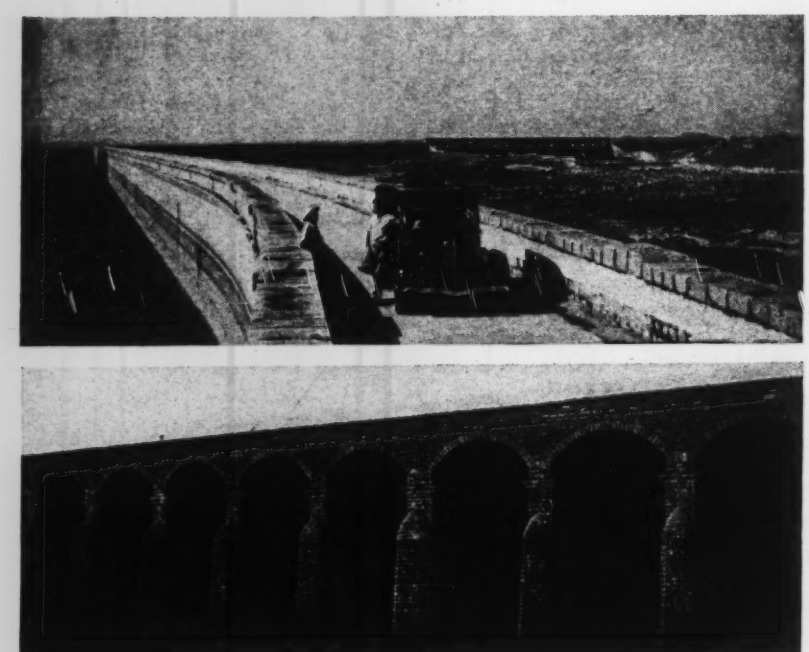
India—Engineers for the princely state of Hyderabad-Deccan, largest of the Indian states, are now putting the finishing touches to a blueprint for a 15-year construction program to provide power and irrigation waters to much of the state's area.

Called the Godaveri Basin Scheme, the program calls for a series of six multi-purpose dams to be built in the valley of the Godaveri River and its tributaries about 150 miles north of Hyderabad, in south-central India. The state's government plans to attract heavy industry to the area when sufficient power is available.

Some of the program is already under way, including ordering of a 37,500 kw. steam plant for installation at the now insignificant town of Ramgundam—atop a coal field whose reserves are estimated to run into millions of tons. Slated for completion in 18 months, this plant ultimately will have an installed capacity of 100,000 kw. Also under way is construction at the Nizamsagar Dam on the Manjira River—a tributary of the Godaveri—where excavation has been nearly completed for relocation of the head sluice to provide water to a 15,000 kw. hydro installation. Under present conditions of monsoon and drought, the output of the station has dropped to about 2,000 kw. in the dry season, when the reservoir falls far below its rated capacity of some 688,000 ac. ft. because of irrigation demand. In order to supplement the reservoir's capacity, another dam is to be built further upstream, to feed some of the irrigation canals directly.

Work expected to start before 1949 includes: the Devnoor Dam, which will act as the feeder for the Nizamsagar reservoir, and will also be used for direct power development; a dam at Kavalgurda, to have a capacity of about 1,000,000 ac.ft. and act as a regulating reservoir for the entire system, and three small power stations.

Biggest of the series of dams planned will be near the confluence of the Godaveri with the Indravati River, where a structure 250 ft. high and three-quarters of a mile long will store an expected 2,000,000 ac.ft. of water in a 100-mile lake.



***Indian State Plans Hydro Work**—Built in 1928 at a cost of more than $6,000,000, the Nizamsagar Dam in the state of Hyderabad will become a part of a six-dam TVA-type development of the resources of the Godaveri River. In lower picture, is shown a section of the existing dressed granite aqueduct that supplies irrigation water at present to 275,000 acres.*

Transport . . . .

Argentina—American-built earth-moving machinery is being used extensively for the construction of a huge new airport to serve Buenos Aires.

The new airport is located 18 miles from the center of the city, and will have six 6,800-ft. runways, loading ramps to accommodate 84 planes simultaneously, and facilities for handling international and local air transport. Actual construction started in November, 1945, and the Argentine Ministry of Public Works expects to open the first runways for service this year.

The connecting link to the city will be a divided-lane express highway, handling three lanes of traffic in each direction.

Uruguay—An airport large enough to accommodate B-29-type planes is being constructed on the outskirts of Montevideo. Located 12 miles from the city, the airport will have four paved runways that will be extended to lengths of more than 6,000 ft. as traffic warrants. Although as yet incomplete, the port is already in use.

Australia—Under terms of the Commonwealth Aid Roads and Works Bill recently approved, the six Australian states will receive federal assistance to the tune of $20,000,000 a year for three years, for construction and maintenance of roads and acquisition of modern road-building equipment.

About $3,300,000 worth of roads will be built each year through sparsely settled areas, timber country and rural districts for which other than road transportation facilities are not now available.

Tanganyika (East Africa)—The British government has accepted a recommendation for a new deep-water port

and railway in southern Tanganyika to cost about $20,000,000. A presently uninhabited lagoon, known as Mio Mtwara, with a huge natural roadstead, will be developed as a major seaport, and a railroad is planned to connect the area with inland farm areas and mineral deposits.

Power . . . .

England—An electric power station with an installed capacity of 200,000 kw., costing more than $28,000,000, is being built on the tidal mudflats at Holes Bay, in the upper part of Poole Harbor, near Bournemouth, southern England. The project covers a total of 30 acres, including the building site, wharves, and auxiliary buildings. It is expected that the station will be ready for operation by late 1950 or early 1951.

Built on "made" land in the harbor, preparation of the site included removal of thousands of tons of silt, and backfilling to above high-water mark, using chalk for the fill.

A. G. Mills, regional engineer for the Bournemouth and Poole Electricity Co., said the site was enclosed in two rows of sheet piling, 15 ft. apart, and its clearing entailed, in addition to removal of silt and filling operations, the removal of wrecks of numerous small vessels. The station will have four generators of 50,000 kw. each. Two chimneys, each 310 ft. high, will serve the plant.

Mexico—The Mexican Light and Power Co.—largest private group in the electricity production field in Mexico—will invest about $8,072,000 during 1947 for improvements to its own plants and those of its subsidiaries. Company officials said that the program is part of a general government-sponsored move to increase electrification of the country to make further industrial development possible.

Fuel . . . .

Syria—Conferences between officials of the Trans-Arabian Pipe Line Co. and the governments of Syria and Lebanon resulted in agreement to place one pipeline terminal at a point south of the Mediterranean port of Bierut.

The pipeline, a 30-in. dia., 1,200 mile line, will eventually connect the Saudi Arabian oil fields with shipping points on the Mediterranean (*ENR* April 10, vol.p.544). Cost of the line will be more than $125,000,000.

Russia—The 530-mile Saratov-Moscow pipeline—the first long distance gas conduit in Russia—was put into operation recently, after two years of construction work. Use of the line marks beginning of utilization of vast natural-gas deposits around Saratov, the line transporting some 50 million cu.ft. of methane gas to Moscow.

The pipeline includes some 85,000 individual steel pipe sections, weighing a total of 50,000 tons, and traverses 100 rivers and smaller streams, five lakes and crosses numerous railroad lines.

Meanwhile, the Soviet government announced signing of a contract for construction of a $6,000,000 gas liquefaction plant with the Dresser Industries, of Cleveland, Ohio. Said to be the largest contract signed between the Soviet and an American firm since the war, the plant is to be built to liquefy 4,000,000 cu. ft. of gas delivered by the Saratov-Moscow line daily, and provide storage for 162,000,000 cu. ft. of gas.

R. G. Le Tourneau Co. Photo

***Airport for Buenos Aires**—Its runways and taxi-strips forming a giant pinwheel, a new airport for Buenos Aires, Argentina, will be opened for service within this year. The port will accommodate 84 planes for simultaneous loading and unloading operations, Argentine officials say.*

Reclamation . . . .

China—Over a million laborers and others are now at work on a nation-wide conservancy program jointly developed by the United Nations Relief and Rehabilitation Administration, the Chinese National Relief and Rehabilitation Administration and the Chinese National Conservancy Commission.

Embracing eight major projects and 16 minor ones, the program will include the rebuilding and repair of dikes along some 5,500 miles of rivers and canals to protect 35,000,000 acres of farm lands. Major projects are along the Yellow, Huai, Pearl, Yangtze and Pai rivers, and the Grand Canal—projects that will require about 185,000,000 cu.yd. of earthworks and 830,000 cu.yd. of stone and concrete revetments.

UNRRA will furnish flour worth $16,000,000 to help pay workmen, and 11,000 tons of construction equipment valued at about $11,000,000. The Chinese government has allocated $122,500,000,000 in Chinese money (valued at about $10,200,000 U.S. currency) as its share of the expense.

Meanwhile, the UNRRA has started planning for the reclamation of some 2,300,000 acres flooded by the wartime diversion of the Yellow River around Huayuankow, recently relieved of river water by closing of the great gap in the rivers dikes. A 56-man party of engineers, including Chinese Central government and UNRRA experts, is now in the area, studying the problems involved.

Standards . . . .

The International Organization for Standardization (ISO), set up provisionally at a meeting of 25 nations in London last October, has become the official body for international standardization work following ratification of its constitution and by-laws by the standards associations of 15 nations.

The United States, which was the first country to ratify the convention setting up the new organization, has now been joined by Chile, Brazil, Australia, Mexico, Finland, France, Switzerland, China, Austria, United Kingdom, Sweden, India, Czechoslovakia and Denmark.

Random Lines *from an editor's notebook . . .*

. . . In which are discussed local reactions to the change of name for Boulder Dam, and geophysical effects of man-made Lake Mead.

President Truman's action April 30 in signing a measure changing the name of Boulder Dam back to Hoover Dam may have found favor in the halls of Congress. But people in the Colorado River country—and many others, too—believe that the Congress might better have directed its energies to more pressing matters.

On a recent swing through the Southwest virtually universal opposition to the change-of-name proposal was voiced. It will be recalled that in 1936 Secretary of the Interior Harold Ickes caused the first switchover—from Hoover to Boulder. This resulted in quite a bit of erasing on maps, drawings, contracts and reports that had been made in the previous years.

Now the question is: What type and how many erasers will be considered adequate to the task of revising the last 11-years' accumulation of maps and documents bearing the name Boulder? And are there any eradicators known at present that will effectively wipe the name from public consciousness? For more than a decade people have been talking about Boulder, and visitors to the project alone average more than 1,000 daily.

In serving these millions of visitors and those that will follow, a sizable chunk of money in this area has been invested in the manufacture of souvenirs and related items. While it won't be catastrophic to the national economy that the dies and plates for making these things must be changed and a few carloads of stuff thrown into the canyons because they are outdated, it is going to be pretty hard on a lot of little business enterprises. So goes the talk.

Quite emphatically, none of the opposition to the change of name reflects any discredit on former President Herbert Hoover. It is not forgotten that as far back as 1922 he was one of those who labored hard on matters pertaining to the Colorado River that led eventually to the start of the dam in 1931 during his administration. The opposition is based on what many people consider to be an unfortunate bit of petty politicking.

The comment of a tourist from Kentucky summed up the situation in this fashion: "When you get here by passing over Boulder Canyon, then go into Boulder City where you find a room at the Boulder Dam Hotel, brother you're destination couldn't be Hoover Dam".

While the structure's change of name will produce no earthquakes, the water behind the dam does.

Earthquakes from water storage

Since 1936 some 500 shocks have been felt by local residents, and altogether 4,000 have been recorded since 1938 by the seismograph station at Boulder City. However, none of the shocks have been serious. In fact, it is said that the energy of all of them put together would be less than one percent of the energy expended by any single destructive earthquake in the western United States that has occurred in recent years.

This is the answer to a question that faced the Bureau of Reclamation when it proposed a reservoir behind Boulder Dam whose stored water could put a load of some 40 billion tons on the earth's crust. It was expected that there would be some yielding but nothing of hazardous proportions.

On the basis of findings to date, these are the conclusions reached by D. S. Carder, geophysicist of The Coast and Geodetic Survey working here:

(1) In the Lake Mead area, earthquakes are associated with definite faults in the rock structure, none of which happens to be nearer than one mile to Boulder Dam or other important structures.

(2) A reservoir in the process of filling can be responsible for small earthquakes if conditions are right—namely, the load must be concentrated over a relatively small area and the underlying rock must already be fractured along definite fault lines, produced by large dynamic forces of the geologic past. Unless the rock is already faulted, loading alone will not produce earthquakes.

(3) If an area is visited by a severe earthquake, that phenomenon would have occurred regardless of reservoir loading, because forces sufficient to produce a shock of that type are disproportionately greater than the inconsequential load of any reservoir.

No change in climate

Another question, which was raised during the planning of this project was: What effect, if any, will the huge lake have on local climatic conditions? In this arid desert Lake Mead creates a water surface of 550 sq. mi. extending back from the dam for 115 miles.

The answer received from L. R. Douglass, assistant regional director, is that there is no apparent change. He pointed out that the area of Lake Mead was pretty small in comparison to the 227,000 sq. mi. basin in which it lies. The temperature range in this locality is still from 20 to 120 deg., and the humidity remains between 10 and 30 percent—E. J. C.

***Roof Going Up**—A nine-ton, 120-ft. steel truss is lifted into place as a $25,000,000 steel sheet and tinplate mill of Columbia Steel Co. takes shape at Pittsburg, Calif. This 720-ft. long building will be one of a group enclosing 25 acres of floor space, housing tons of machinery.*

Assess effect of reclamation fund cut

A more detailed analysis of how the Bureau of Reclamation will be affected by proposed reductions in its budget for fiscal 1948 last week revealed that drastic cuts may have to be made in the agency's staff and that some major work may be halted.

The cut in funds was passed by an overwhelming vote of the House (*ENR*, May 1, vol. p. 725) and is before a Senate committee.

The House version of the bill allows only $6,500,000 for the Denver engineering office of the bureau—an activity that has been operating with an annual budget of about $10,500,000. This slash, if maintained by the Senate, apparently will require a considerable reduction of the engineering staff and will be felt most severely in the planning activities for new projects and projects not yet under construction.

House members also reduced a Budget Bureau request for $132,461,000 to finance reclamation construction to a total of $61,433,000. This is expected to be reflected in a general slowing of progress on $160,000,000 worth of projects on which contracts are already outstanding. This particular cut will affect equipment orders as well as actual projects—probably decreasing amounts and frequency of "progress payments" advanced by the bureau to manufacturers.

It also appears that the reduced construction budget will not provide sufficient funds to continue work through out the fiscal year on several projects, observers said. Construction funds for three major projects — Colorado-Big Thompson, Columbia Basin and Davis Dam—probably would be exhausted by January 1, 1948.

Irrigation may be cut

Based on estimates released by the bureau at the time the budget was sent to Congress, about 58 percent of the lands which the bureau estimated would be receiving irrigation water in fiscal 1948 will not be irrigated under the reduced budget. A reduction of 87 percent in the additional hydro-electric power capacity originally scheduled for installation in the year also appears likely. The bureau had anticipated the irrigation of some 466,000 acres of new land in fiscal 1948, but under the new figures, it appears that only 191,000 acres can be irrigated.

Legislative provisions of the House version of the appropriations bill also present complications which may involve additional delay of reclamation projects. Of chief concern to the bureau is the proviso that none of its construction work will be done under government force accounts. Some 1,800 men, practically all the construction staff, on the Columbia Basin project are force account employees. Much of the work on the Lower Colorado River projects also is being carried on under the same arrangement. The bureau, under present provisions of the law, is faced with the task of dismissing all force account employees by July 1 and getting the projects involved under contract with private contractors. The latter procedure is one which is certain to take considerable time.

As the Interior bill was referred to the Senate Appropriations Committee this week, Sen. Robert A. Taft and other Republican leaders defended the 45 percent budget reduction effected by the House. However, Senator Taft promised that if it were found that additional funds were needed for major reclamation projects, the Senate would give them "further consideration."

Appearing before the Senate committee on May 8, Secretary of Interior J. A. Krug said that development of more than 1,300,000 acres of irrigated land and 350,000 kw. of hydro power would be postponed because of the fund cuts.

River, Harbors Congress decries economy drive

Concern over anticipated curtailment of federal water development programs highlighted the recent annual convention of the National Congress of Rivers and Harbors, in Washington, D. C.

After having numerous speakers warn of the consequences of a federal economy drive, the organization adopted resolutions urging the Congress to promote "flood control, navigation, reclamation and allied works" at a "vigorous rate" and labeling the funds approved by the Budget Bureau for such projects as "inadequate to meet the great need of the time."

The convention considered 35 water improvements and endorsed 13, involving a total estimated cost of $328,270,000, for prompt construction. The priority projects include: Sacramento River, Calif., 30-ft. ship channel; Taunton River, Mass.; New Haven Harbor and Quinnipiac River, Conn.; Intracoastal Waterway, Jacksonville to Miami, Fla.; Big Sandy River Waterway, Ky., W. Va. and Va.; West Fork River Reservoir, W. Va.; Apalachicola, Chattahoochee, and Fint Rivers, Ala., Ga. and Fla.; Buggs Island Reservoir, Va. and N. C.; Lower Snake River, Wash. and Idaho; and Bridgeport Harbor, Conn.

Economy axe may hit rivers, harbors

A bill to eliminate some of the rivers and harbors surveys previously authorized by Congress has been introduced by Rep. George A. Dondero, chairman of the House Committee on Public Works.

The bill (H.R. 3172) would withdraw 81 projects, approved in acts of March 2, 1945, and July 24, 1946, from the Army Corps of Engineers' huge backlog of survey work.

Dondero talked it over with Engineer officers before introducing the bill and said all of the projects listed could be pulled back without damage to the Corps' schedules. He plans to sponsor other legislation pulling back authorizations for flood control surveys which Congress has approved in recent years.

The survey authorizations, which involve no construction work, are the first target of the House Committee chairman's economy drive.

Dondero may, however, also ask Congress to pull back some of the actual construction projects which have been authorized in the past but for which no money has yet been appropriated. Meanwhile, his committee was confronted within a series of bills aimed at overriding President Truman's "stop" order of last fall and ordering the Corps of Engineers to proceed immediately with all projects for which funds have been appropriated.

Dondero's repealer bill listed 27 surveys authorized by the 1945 Rivers and Harbors Improvement Act and 54 projects authorized in 1946 legislation.

Cape Fear River dredging started by Army

Work has started on the dredging of a 32-ft. channel in the Cape Fear River at Wilmington, N. C., under the Wilmington district engineers. The dredge began work in the upper region of the Brunswick River and will extend the project to the Lilliput Channel, about halfway to the Atlantic Ocean. The channel besides being dredged to a depth of 32 ft. is being widened to 400 ft. The project is scheduled to be completed within a year at a cost of $1,000,000.

HIGHLIGHTS OF MUNICIPAL DEVELOPMENTS

Summarizing current activities in city engineering and construction throughout the country.

Boston traffic plan submitted to legislature—Traffic survey for Philadelphia—Enlarge Chicago Sanitary District—White Plains, N. Y., sets up public housing project—Other municipal news

A 6-step plan for relief of traffic congestion on downtown Boston's narrow crooked streets was presented to the Massachusetts legislature last week for consideration. The program was recommended by a special legislative committee, and endorsed by a considerable number of engineering, business and real estate groups in the city.

At the same time, many other cities throughout the United States announced new plans for street widening, relocation and repair in attempts to cope with ever-increasing traffic congestion.

The plan for Boston includes recommendations for:

Construction of a second tunnel near the present Sumner tunnel to East Boston, to be financed by revenue bonds and toll charges; the incorporation of the existing Mystic River Bridge, the Sumner Tunnel and the new tunnel under one operating authority after completion of all projects and; a state appropriation to finance studies for construction of approaches to the bridge and tunnels.

The committee also called for a restudy of the present system of allocation of state funds for highway work, with a view towards obtaining greater funds for the solution of urban traffic problems.

Philadelphia survey

To serve as a basis for charting future city and state highway planning, and to provide a basis for determining the amount of parking space required in the downtown area, an extensive traffic survey will start at Philadelphia, Pa., May 15.

Sponsored jointly by the city, the state and the federal government, the $220,000 program will be under the supervision of Frank L. Strange, assistant construction engineer for the state highway bureau, and Robert A. Mitchell, Philadelphia traffic engineer.

Workers will question motorists along main arteries, and will canvass 30,000 homes in addition.

The biggest single piece of highway work announced during the week was at Akron, Ohio, where the city prepared to go ahead with its plans after the state highway department approved proposed $58,000,000 superhighways that cut across the city in two directions.

To be known as State Routes 8 and 18, the new roads will be limited-access highways, running north and south and east and west through the city's center. Roadways are planned to carry from four to six lanes of traffic.

Rochester, N. Y., city councilmen considered a program calling for expenditures of $900,000 for resurfacing and reconstruction of 82 city streets, and the Tampa, Fla., city engineers office announced that henceforth it's street rehabilitation and repair program would be prosecuted under a master plan looking toward integration of all work to achieve eventual relief of traffic congestion. Paving work, widening of roadways and installation of utilities will be coordinated.

At Milwaukee, Wis., however, Ralph Gamble, superintendent of the bureau of street construction and repair, reported that only three of the city's planned street construction projects can be completed, due to inability to obtain enough water pipe and street lighting cable. Projects totalling more than $1,000,000 of work are being delayed, Gamble said.

And at Saint Paul, Minn., city councilmen voted to re-purchase 1,230 parking meters, in part already installed, after re-advertising for bids to conform with a recent state supreme court decision which held that the original purchase agreement was illegal.

Press Assn. photo

***Sidewalk Sitdown**—Residents of Boston's old Beacon Hill section protested emphatically recently to a city plan to tear up the area's ancient red-brick sidewalks and replace them with concrete. City officials said that the rough paving causes pedestrian accidents and lawsuits. Women residents objected to the plan on the ground of sentiment, and emphasized their objections with a "sit down" on a section of the pavement.*

Buys water system

The town of Farmington, N. M., last week purchased a $337,000 water distribution system from the War Assets Administration for $16,692, so that some of its residents will not be forced to continue carrying water in buckets and barrels.

The system purchased was used at the Central Utah Relocation Center at Topaz, Utah, and will be dismantled for shipping to Farmington. The town plans to use its purchase to supply water to 70 dwellings in new subdivisions, whose residents must obtain their water supplies from ditches and open streams at present. The town has been unable to purchase water pipe and other needed equipment.

At Youngstown, Ohio, the Ohio Water Service Co. announced it would build a new $1,000,000 reservoir to boost its storage capacity for service to Youngstown. Construction will entail a dam structure 45 ft. high and about 4,000 ft. long.

Big hospital plans

Plans are disclosed by Mayor Bernard Samuel to expend upwards of $20,000,000 to increase the bed capacity and provide other modern facilities at Philadelphia's two municipally-owned hospitals. The mayor said that 1,000 additional beds will be provided at Philadelphia General Hospital and that a new 650-bed general hospital will be erected at the Philadelphia Hospital for Contagious Diseases. City Council has allocated $5,000,000 toward the start of the long-range program.

The plans call for the construction of a new neurological building for nervous diseases for approximately 700 patients at Philadelphia General Hospital. The

new building will replace a building dating back to 1834 and will include an outpatient clinic, occupational therapy departments, new kitchen and dining and store building.

Philadelphia General Hospital plans are divided into four stages, Mayor Samuel explained. This he said will permit demolition of obsolete structures and erection of new buildings with minimum interference with the operation of the hospital.

School buildings

A $25,000,000 school building program for Minneapolis, Minn., over a 10-year period has been proposed by the Public Administration Service, Chicago. In a survey of schools presented to the mayor's tax and finance commission, the PAS says that building needs are so urgent that some construction and rehabilitation projects should be started at once.

Capital expenditures in 1948 should be at least $2,000,000, the PAS report states.

An outside school-planning expert and architects of Louisville, Ky., will be retained to carry out the city's $8,000,000 school-building program, the board of education has decided.

Questionnaires will be sent to Louisville architects in an attempt to determine their qualifications. They will actually blueprint new school plants, with the consultant serving in an advisory and coordinating capacity.

After analyzing such factors as expected attendance and courses, the consultant will chart school sizes, styles, classroom locations, facilities and other features.

High bids for jetties

Only two bids were submitted at a recent meeting of the City Commission of Atlantic City, N. J., for construction of eight stone and timber jetties along the beach front, and the lowest was $752,051.50—more than $250,000 above the $500,000 provided for the work by the city and state.

Fresno votes $7½ million

Fresno, Calif., voters on April 14 gave approval to $7,525,000 worth of school, sewer and civic center bond issues, the majority on one school bond reaching eight to one.

The first project to be undertaken in the approved program is construction of a large outfall to carry storm water away from the downtown district, part of a 5-year, $2,650,000 sewage disposal modernization.

***Chicago Water Supply Expands**—Final inspection by a group of engineers precedes turning of water into new intake tunnel from the Dunne Crib to Chicago's South District Filtration Plant, marking another step toward 100-percent operation of the 320 mgd. plant, now operating at more than half capacity. W. W. DeBerard, city engineer (third from left) leads the inspection party as it prepares to descend shaft. Previously, the plant received water through its own lake intake.*

Port district approved

Voters in Sacramento and eastern Yolo counties in California April 16 approved, 4 to 1, the establishment of the Sacramento-Yolo Port District, clearing the way for construction of a deep water ship channel between Sacramento and the San Francisco Bay.

The next step in the 25-year-old push for a channel will be the submission to the voters of a $3,000,000 bond issue to pay for local costs of the $14,000,000 project. The $11,000,000 cost of dredging the river will be borne by the federal government, authorization for the project being contained in last year's Rivers and Harbors Ominbus Bill.

A port district commission will draw plans for the issue, which probably will reach the voters next year, and will select a marine consulting engineer to draw plans and specifications for terminals, warehouses and belt railroad. The commission also must secure rights of way.

Completion of the channel will give terminal freight rates to Sacramento and is expected to touch off considerable industrial development. The channel, leaving deep water in Suisun Bay, will be 30 ft. deep, from 200 to 300 ft. in bottom width, 500 to 600 ft. in surface width and about 40 miles long. It will follow nearly a straight line from Suisun Bay to Lake Washington in Yolo County, leaving the Sacramento River at Cache Slough to cut 15 miles off the present water route. Two to three years will be needed to complete the project.

Extend sanitary district

Governor Dwight H. Green of Illinois last week signed three measures permitting the extension of the sanitary district of Chicago to include areas in LaGrange Park, and other tracts in Cook County outside the city limits. If no requests for a referendum are made by residents of the area, the extension will become effective in two months.

Other sewer projects reported during the week included:

The water board of Miami, Fla., approved the award of a contract for design and supervision of a proposed $17,000,000 sewer extension and disposal system to the Chicago firm of Greeley and Hanson; and the Buffalo, N. Y., sewer authority adopted a budget of $1,645,000 to cover operations for the coming fiscal year.

Housing at White Plains

A local controversy over the advisability of establishing the city's first subsidized low-rent public housing project in a 3-block area not far from the downtown shopping center of White Plains, N. Y., was settled when the city approved the $5,000,000 project.

To be built by the Municipal Housing Authority, the housing is to be of garden type buildings, three to six stories high, to accommodate 550 families. Some property owners on Post Road had objected to the project on the ground it would interfere with business development on that thoroughfare.

Blasting work begins on $36 million Calif. dam

The Army's Corps of Engineers has started blasting operations on California's $36,000,000 Pine Flat Dam on the Kings River near Fresno.

Primary bid letting and opening of construction on the dam followed rapidly on President Truman's mid-February order authorizing release of $1,000,000 in impounded funds so that the structure could be begun as a flood control project, pending settlement of controversies over its irrigation features.

The successful bidder on the opening construction was the Piombo Construction Co., San Francisco, at $261,988. for the building of an access road and excavation of the left abutment of the dam. The balance of the first million dollars is expected to be used for an engineers' camp and necessary rights of way.

Plans call for a 450-ft.-high concrete dam, 1,800 ft. long at the crest creating a 1,000,000 ac.ft. reservoir. Penstocks will be provided for future power development. It will take about three years to construct. The dam is to be operated only as a flood control facility until agreement has been reached between the Bureau of Reclamation and local water users on the division of cost and repayment arrangements.

Urgently needed

Need for the dam is urgent, as the highly-developed Kings River and Tulare Lake area is subject to recurring destructive floods, causing damages in the past six years amounting to $20,000,000.

President Truman authorized start of construction on the project on receipt of an agreement between the Secretary of War and the Secretary of the Interior, on the allocation of costs between flood control and irrigation. His action may be the forerunner of a policy permitting more rapid completion of 15 other dam projects in central and northern California areas which were authorized for construction by the Corps of Engineers in the Flood Control Act of 1944.

Under the agreement between the two secretaries, no more than $14,250,000 is to be charged up to irrigation, the exact amount to be worked out between the bureau and local agencies.

The State of California and local users have recommended that $10,000,000 be set as the maximum irrigation share. However, the agreement noted that "The Secretary of the Interior is firmly convinced that any repayment less than $14,250,000, which he has found to be well within the repayment ability of the water users, would adversely affect adjacent federal reclamation programs in the Central Valley."

Controversies over the irrigation features of the project arise from the belief of water users in the area that the reclamation laws—particularly the 160-acre land limitation feature—are not applicable in their case. Having spent some $70,000,000 in irrigation development in the region, they declare their land is not in need of "reclamation." Also, they do not believe they should have to pay for flood control protection offered to other parts of the United States without local cost.

Seattle to construct third unit of Ross Dam

City officials of Seattle, Wash., have decided to proceed immediately with construction of the third unit of the city's Ross hydroelectric dam, negotiating a contract for the new work with contractors already at work on the dam.

The third unit will bring the Skagit River structure to its final height of 540 ft., to provide 1,400,000 ac. ft. of storage. The cost of the new unit, expected to require two years for completion, is estimated at $7,000,000.

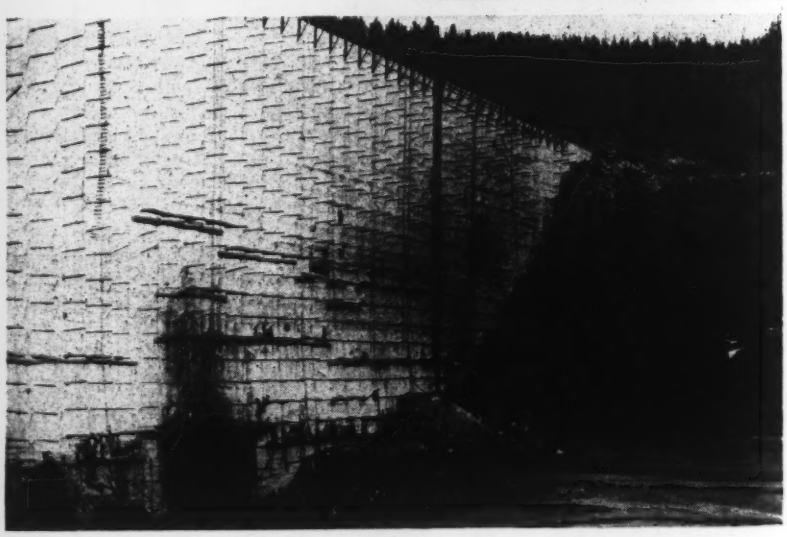
Resurface upstream face of Barker Dam

Work on resurfacing the upstream face of Barker Dam, near Denver, is progressing as an unusual method of meeting an old problem is put to use. Precast reinforced concrete slabs (photo upper right) are fastened in place to act as forms for concrete to be placed by the Prepakt process after the reservoir has been filled. The slab facing is built up as an outer form from which projecting steel rods or dowels are welded to similar dowels projecting from the face of the dam (lower photo and cover). The dowels in the dam were grouted in place. (*ENR*, Dec. 19, 1946, vol. p. 839).

As the wall rises, the space between the slabs and the existing structure is backfilled with coarse aggregate into which grout is later forced.

Frost action, which caused surface deterioration, and lack of mass in the gravity type structure resulted in the need for repairs and the method of construction chosen. The placement of the slabs continued through the winter to be ready for the season's runoff.

The Prepakt Concrete Co., Cleveland, is general contractor on the job for the Public Service Co. of Colorado, owner of the dam. John Hofer is general superintendent for Prepakt. The work is being engineered by Raymond E. Davis, consulting engineer, Berkeley, Calif. In charge for the Colorado utility is E. Clinton Jansen, chief hydraulic engineer, and L. B. Card, mechanical engineer.



Contract awarded for Detroit veterans' hospital

Harley, Ellington & Day, Inc., Detroit, Mich., architects-engineers, have been awarded a contract for the design and preparation of plans and specifications for a 500-bed "T.B." hospital for the Veterans' Administration. It will be constructed in the northwest section of Detroit. Award of the contract was made by Col. A. Riani, district engineer of the Detroit district, Corps of Engineers. The Army Engineers will supervise construction.

The contract provides for completion of plans, working drawings and specifications by Jan. 31, 1948, after which competitive bids will be received. It is expected that the construction will require from 18 months to 2 years.

The site of the hospital, as selected by the Veterans' Administration, is a 40-acre tract located at the northeast corner of Lahser Road and Seven-Mile Road. The project will include nurses' quarters, 2 duplex residences and a manager's quarters, as well as laundry, boiler house, garage and the main hospital building of about 8 stories. It is tentatively estimated that the cost of the project will be approximately $7,700,000.

Indiana surveys are cooperatively financed

Information supplementing that previously published (*ENR* Apr. 3, vol. p. 491) concerning a topographical survey of Indiana has been furnished by Charles H. Bechert, director of the division of water resources of the State Department of Conservation.

The survey and the study of the state's water resources are separate programs, both administered by the department. The topographical mapping is financed by a legislative appropriation and the money is spent cooperatively with the topographic branch of the U. S. Geological Survey, on a dollar-for-dollar basis.

In 1943 the state legislature authorized the Department of Conservation to investigate the water resources of the state and to enter into a cooperative agreement with the water resources branch of the U. S. Geological Survey for the work. In 1945 the law was amended to increase the annual appropriation to $25,000. Last year these funds were augmented by contributions from several state and municipal agencies, making a total of $48,000 available for investigating the water resources of the state.

New Hart Highway in B.C. to save 1,000 miles

Involving expenditure of $6,000,000, the Canadian province of British Columbia is building the Hart Highway to connect its highway system with the Alaska Highway. The new route will provide direct connection between Vancouver and the Peace River country, as well as with Alaska. The project calls for the construction of three major bridges.

The new highway will cut 1,000 miles from the present route and offer an alternative to steamship services. It may be possible to forward goods to interior Alaskan points by rail and truck at a cost not exceeding, and possibly lower than the present freight charges by coastal steamer, highway officials said.

The present highway route to Dawson Creek, via Spokane, Helena, and Great Falls, Mont.; and Calgary and Edmonton, Alta., makes a total of 1,865 miles from Seattle. The Hart Highway will provide a combined rail and truck route from Seattle to Dawson Creek via Vancouver, Quesnel, Prince George, totalling 853 miles.

Main contracts on the Hart Highway construction are being carried out by the Campbell Construction Co., Vancouver; and the Fred Mannix & Co. Ltd., Vancouver and Calgary.

Bridges to be built

The Pine River bridge at East Pine, 45 miles west of Dawson Creek, will be the largest of three new bridges. It will be 700 ft. in length from abutment to abutment, with a concrete deck 18 ft. wide. The center span will be 280 ft. in length, flanked on each side by a 160-ft. span with a 50-ft. span at each approach. The design is of the Pratt Truss type and is continuous throughout.

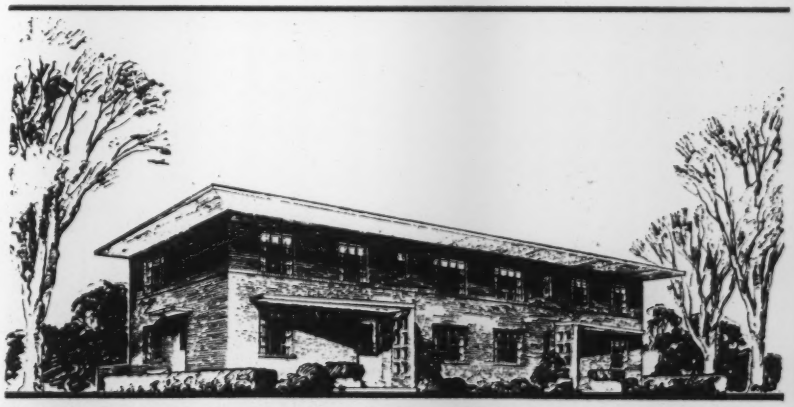
The main piers are about 10 ft. down in the shale rock formation of the river-bed, and from the base of these piers to the top of the concrete is 132 ft.; the total height of the bridge above high water will be 102 ft.

The sub-structure is being undertaken by the Northern Construction Co. and J. W. Stewart Limited, while the super-structure is to be built by Dominion Bridge Co. The bridge was designed by the engineering branch of the British Columbia Department of Public Works, under the direction of the chief engineer.

ARBA road show set for Chicago, July 16-24, 1948

After a lapse of eight years, the American Road Builders Association will put on a road show at Soldier Field, Chicago, July 16-24, 1948.

In announcing this first outdoor summer show, J. T. Callaway, A.R.B.A. president, said that construction equipment manufacturers will have unlimited outside space for proper display of their machines, while exhibits requiring cover will be amply taken care of in large closed exhibition halls. "Because of the lapse of eight years since the last road show," Callaway said, "we have decided to extend the show to nine full days to give the entire construction and roadbuilding industry and profession a chance to see the new developments in machines and materials."



***Houses for Army Personnel**—The Corps of Engineers recently announced development of a new type of housing for Army personnel, the structures being designed for conversion to permanent dwellings with a minimum of alterations. Every dwelling contains four apartments, each consisting of a living room, kitchen, bath and two bedrooms, and each convertible into two duplex apartments. Ceiling cost per unit is $7,500, and several different floor plans have been developed. Outside facing will be brick or stucco.*

MEN AND JOBS

W. I. Stemmell resigned as assistant to the chief design engineer of the Tennessee Valley Authority to become departmental engineer with Birch-Johnson-Lylte in charge of the engineering department of their Seattle, Wash., office. The firm has a contract for construction on the U. S. Army bases in Alaska. Mr. Stemwell is a civil engineer graduate of the University of Illinois, 1923, and was a lieutenant commander CEC, U. S. Navy.

W. R. Freeze, who received his civil engineering degree at Duke University in 1945, now is general superintendent for the J. A. Jones Construction Co. of Charlotte, N. C., on a construction job at Greensboro, N. C.

Earl K. McNeil has a Public Roads Administration position in Bolivia working on the construction of a highway between Cochabama and Santa Cruz, with headquarters at Cochabama. He is a civil engineering graduate of Tri-State Engineering College, Angola, Ind., 1941. In 1942 and 1943 he worked on the Alaska highway and latterly he was on the Garrison Dam project.

Three officials have been named by U. S. Engineers for the McNary Dam project at Umatilla, Ore., **Robert G. Hooson** to be chief administrative assistant to Lt. Col. William J. Ellison, Jr., resident engineer; **Edgar J. Scheufele,** chief of the cost section: and **George Lautman,** chief of the warehouse and property section. Hooson has been chief of the office service branch of the North Pacific division at Portland; Scheufele, head of the civil projects subsection of the fiscal branch of the Portland district; and Lautman in charge of the Bonneville Dam warehouse.

On a tour of the United States to study water supply practices, a group of Dutch engineers spent a day recently at Chicago's filtration plant. Left to right are: W. F. J. M. Krul, director, Governmental Institute for Water Supply; C. Biemond, director, Amsterdam waterworks; K. W. H. Leeflang, bacteriologist, Amsterdam; John R. Baylis, engineer of water purification, Chicago; A. J. Gurck, director of waterworks, The Hague, and B. F. VanNievelt, of North Holland provincial waterworks.

More than 250 years of service is represented by the engineers of the Pennsylvania Department of Highways shown here at an award dinner. Upper row, left to right, are: J. Paul Ambler, Pittsburgh; G. E. Handwerk, Allentown; C. R. Forbes, Harrisburg and S. W. Jackson, Franklin. Below are: D. C. Stackpole, Ardmore; C. H. Buckius, assistant chief engineer; Ray F. Smock, secretary of the department; T. C. Frame, retired chief engineer; and S. P. Longstreet, Uniontown.

John E. Maring, commissioner of streets and sewers in Kansas City, Kan., has been promoted to city engineer, succeeding **Reed McKinley,** who has become director of public works.

Arthur G. Anderson has been made assistant engineer of waterworks construction in the Bureau of Engineering of the Chicago Department of Public Works, which he has served as resident engineer on various tunnels, pumping stations and other construction projects since 1912.

William H. Mitchell is now with Stone and Webster Engineering Corp. as engineer in the structural division. He is a graduate of Northeastern University and served with the Civil Engineer Corps of the Navy in the Pacific, and in the executive office at the Construction Battalion Replacement Depot, Camp Parks, Calif.

Ralph B. Reeves, city engineer of Chanute, Kan., has resigned to open his own construction engineering office in Chanute.

Harold F. Hammond has been appointed assistant manager of the transportation and communication department of the Chamber of Commerce of the United States. Mr. Hammond has a degree in engineering from the University of Michigan and from Harvard. For three years he was traffic engineer for the Massachusetts committee on street and highway safety. During the war he was transportation consultant to the ODT and the Norfolk, Va., naval operating base.

H. H. Palmer has been promoted from assistant director to director of maintenance of the Kentucky State Highway Department, succeeding **H. D. Metcalf,** who resigned to return to the Ohio State Highway Department as chief of motor transport.

A. L. Thomas, civil engineer, has left the bridge office, bureau of design, Illinois Division of Highways, Springfield, to go with Alfred Benesch and Associates, Chicago, Ill.

Albert Arter has returned to the bureau of design, Illinois Division of Highways, Springfield, where he had worked from 1935 to 1942, as an engineer. During his absence he had been with the engineering department at Allis-Chalmers Manufacturing Co., Springfield, and for 18 months with the

engineering section of Curtis-Wright, St. Louis, Mo.

Bert Goatley has become Gallatin County superintendent of highways at Shawneetown, Ill. **Ralph D. Brown** had previously served in the post as acting superintendent.

Arthur L. Bohley, city engineer at Sheboygan, Wis., since 1931 and a member of the Sheboygan city engineering department since 1909, has tendered his resignation.

T. H. Ralph, with the Texas State Highway Department at Hillsboro, Tex., has been named County Engineer of Limestone County.

Faye B. Comeau has become chief engineer with the California Steel Products Co. of Richmond, Calif. He formerly was a structural designer with the Chas. W. Cole consulting firm of South Bend, Ind., and for the last year has been engineer for the Columbia Steel Co. of Oakland, Calif.

Walter Baseman, county highway engineer of McLeod County, Minn., has resigned.

Harry C. Anderson has been named chief engineer, British Columbia Department of Public Works, Victoria, succeeding **A. L Carruthers,** recently named Deputy Minister. **Neil M. McCallum** has been named assistant paving engineer.

Roger C. Ernst, who returned to civilian life recently after three years of army service, has been appointed executive secretary of the Water Development Association of Southeastern Colorado. Upon graduation from Denver University, Mr. Ernst joined the engineering firm of R. J. Tipton & Associates, Denver.

Robert G. Fitzgerald, who has been resident engineer for the North Carolina highway division at Lenoir for the last five years, has been promoted to district engineer at Winston-Salem.

E. Blake Allen has been named city road engineer of Saint John, N. B. A graduate of the University of Toronto, Mr. Allen was formerly assistant road engineer at Hamilton, Ont.

Hunting, Davis & Dunnells, Inc., engineers, 1150 Century Building, Pittsburgh, Pa., specializing in the design and supervision of industrial plant construction, announce the appointment of **Henry J. Larsen,** as chief engineer and member of the firm; and a change in the name of the corporation to Hunting, Larsen & Dunnells, Inc., Engineers.

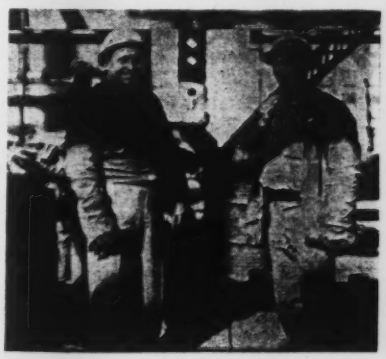
Edwin A. Thornquist, Everett D. Witte and **Sherman A. Smith** have formed the partnership of Thornquist, Witte & Smith, architect and engineers, for the general practice of architecture and engineering, with offices in the Eisfeld Building, Burlington, Iowa.

The Delaware State Highway Commission has appointed **M. Allan Wilson,** of Dover, Del., who has been testing engineer, as assistant chief engineer in charge of construction and maintenance. **Frank J. Bowery,** of Dover, was advanced from soil engineer to testing engineer to succeed Mr. Wilson.

Ralph J. Hoover has been appointed as a deputy in the Lucas County engineer's office in Toledo, Ohio, in charge of special assignments. He served 15 years as senior engineering draftsman in the city engineering department. He wsa with the Corps of Engineers during the war.

William H. Gray has been given a year's contract as engineer of the village of Mentor, Ohio.

Col. Craig Smyser, district engineer at Denver, Colo., addresses crowd at Grand Junction, Colo., at ground-breaking ceremonies preparatory to start of construction of $3,406,000 veterans hospital.



Steel erection for the 18-story Terrace Plaza Hotel building in Cincinnati, Ohio, by Bethlehem Steel Co., was under supervision of C. E. Zetters (left) resident engineer, and C. W. Lowman, who is superintendent of the project.

John L. Mutz, area planning engineer in charge of the Albuquerque, N. M., office of the Bureau of Reclamation, is now completing a report on reclamation problems in the Rio Grande watershed.

T. L. Terry, general superintendent for the Utah Construction Co. on the Davis Dam project, finds the desert sun as stimulating as the frozen north, where he made construction history on the Alcan Highway.

W. B. Hutcheson, district highway engineer for northern Ontario, Canada, broke into a vacation trip to attend recent sessions of highway engineers of the North Atlantic states at Atlantic City, N. J.

Steel-frame Calco plant has concrete exterior

Economy and efficiency are claimed for the design and construction of the new Willow Island, W. Va., Works of the Calco Chemical Division, American Cyanamid Co. Reinforced concrete exterior columns are cast first, then the interior structural steel frame is erected and, finally, concrete spandrels are cast in place.

Nearing completion on a site of over 100 acres on the Ohio River about 17 miles upstream from Parkersburg, W. Va., are four 2- and 3-story buildings for manufacturing folic acid, melamine and inorganic pigments, a power house with two 100,000-lb. per hr. boilers and a 40,000-sq. ft., one-story, steel-frame warehouse. The estimated cost of present construction is about $20,000,000.

Having 18x20-ft. bays, the four manufacturing buildings are 60 ft. wide and 580 ft. long. The floor systems are designed for a total load of 300 psf., and the floor slab is 2¼-in. thick concrete resting on a waterproof membrane laid on a 4-in. plank subfloor. The roofs are wood deck topped with built-up roofing.

Concrete exterior columns were selected as being more economical than steel members encased in concrete or tile, although structural steel is used for the interior frame. The steel was erected after the concrete columns were cast, but before the spandrels, to withstand wind loads.

For the 2x6-ft. exterior columns, forms consisting of a steel frame with 3-in. vertical wood sheathing lined with pressed wood were used repeatedly throughout the project. The sides of the columns were grooved to receive the cast-in-place spandrels, which are about 6 ft. wide and 10 in. thick. This type of construction provides concealed expansion joints in every bay to avoid cracking.

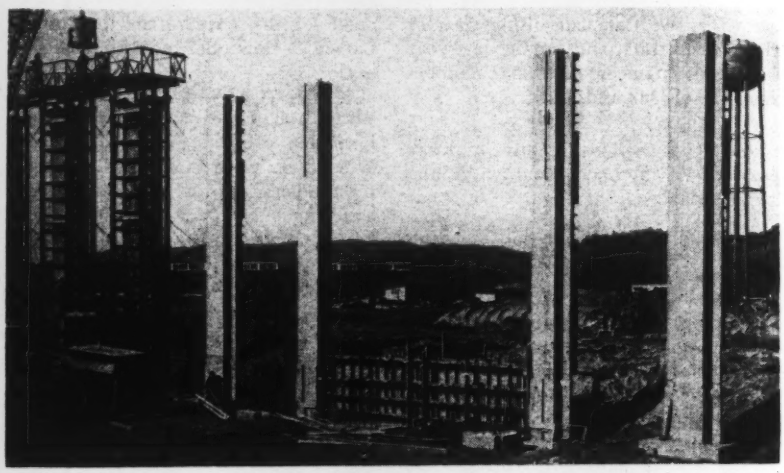
The water supply for the plant is infiltrated Ohio River water obtained from two 13-ft. diameter concrete collectors with radial interceptors. Distributed through asbestos-cement pipe, because of process requirements the water is not permitted to come into contact with iron. Therefore, fittings are cast iron lined with synthetic rubber.

The water is chlorinated and softened for boiler use, but not filtered.

Elevated storage tanks, each of 100,000-gal. capacity, are provided for fire, boiler and reclaimed water.

Turner Construction Co. of New York are general contractors. C. E. Mensing is director of engineering and George Seybold project engineer for Calco Chemical Division.

Four 60 x 580-ft. manufacturing buildings are under construction at the new Willow Island, W. Va., works of the Calco Chemical Division, American Cyanamid Co. They are partly two and partly three stories high.



Exterior columns are reinforced concrete, cast in forms consisting of a steel frame with 3-in. vertical wood sheathing lined with pressed wood.

The structural steel frame is erected after the exterior columns, and then the concrete spandrels are cast in place, supported in grooves in the columns.

Wm. J. Cox to retire as Conn. highway head

William J. Cox, highway commissioner of Connecticut since 1938, will retire July 1, and G. Albert Hill, chairman of the chemistry department at Wesleyan University, Middletown Conn., has been appointed to succeed him.

Mr. Hill has had experience in highway construction and street development, especially at Worcester and Springfield, Mass., and is a former member of the Connecticut Water Commission.

Mr. Cox, a civil engineer graduate of Washington and Lee University, served with the 605th Engineers, U. S. Army in the First World War. In 1920 he was an instructor in the department of engineering mechanics at the Sheffield Scientific School, Yale University, and later was professor of engineering mechanics at that institution. In 1942 he was the center of a controversy over the conduct of his office and for a short time was suspended. However, he was fully exonerated and re-instated by the then Governor, Robert A. Hurley.

Propose a 5-year plan to build Hawaiian hotels

Representatives of Hawaii's business houses, land companies, transportation firms and community organizations met April 18 to organize to meet an expected deluge of travelers through a five-year hotel construction program.

The five-year plan was presented as a community-wide program by Hawaii Visitors Bureau Chairman Lorrin P. Thurston.

Mr. Thurston said that obtaining new hotel accommodations throughout the islands, that would form a "chain" for inter-island travel, should be a community project invested in and supported by the great Hawaiian firms who have played the major part in the early building of island business.

Army plans new airfield in northeast Maine

Plans for construction of a $13,000,000 airfield in northern Maine to base very heavy bombardment airplanes were revealed by Army Air Forces headquarters last week.

The new field will be near the hamlet of Limestone, in Aroostook County, four miles west of the Canadian border. The site is about 30 miles northeast of Presque Isle, Me., used as a transatlantic air base during the war.

TWO HEADS BETTER THAN ONE

The Little Rock, Ark., Engineers Club found itself in a unique position when two of its members received the same number of votes for president in the recent annual election.

The solution of the tie was that Ben Dees would serve for the first six months and C. H. LeVees for the final six months.

Anti-pollution campaign showing results in Pa.

The joint fight against river pollution by city, state and federal agencies in Pennsylvania is already beginning to show results, reports Col. F. F. Frech, U. S. district engineer at Philadelphia.

Colonel Frech revealed that the 1944 estimate of $34,800,000 as the total cost to federal and state governments for rehabilitating the Schuylkill River must now be raised to about $38,000,000. Increased costs of material and labor probably will add 10 percent to the total cost. This increase will apply equally to federal and state shares of the work.

The two biggest elements of the anti-pollution program already have been started, Colonel Frech pointed out, with the elimination of the dumping of coal culm in the upper Schuylkill and the beginning of the construction of sewage disposal plants by Philadelphia and other municipalities. Colonel Frech disclosed that despite a 20 percent increase in coal production in the anthracite regions of Pennsylvania in 1946, silt deposits in the Schuylkill River showed a drop of 16 percent from 1945.

Commission to study N. C. regulatory boards

The North Carolina Legislature on April 3 enacted a law authorizing the governor to appoint a special commission to investigate the activities and practices of the 21 licensing and regulatory boards now operating in the state.

Among others, the law involves boards concerned with engineering, land surveying, architecture, and plumbing, heating and general contracting. The commission to be set up will be composed of three members of the legislature's House of Representatives and two members of the Senate.

Enactment of the law followed considerable criticism regarding the practices of some of the boards, and the commission will have wide latitude in its investigation.

Court confirms McKee as Lucas County engineer

Ohio Supreme Court has ruled that Samuel McKee, Toledo, is the rightful claimant to the post of Lucas County engineer, throwing out the claim of Melvin Rice, appointed to the position to fill a vacancy Sept. 9, 1945. Mr. McKee defeated Mr. Rice at the Nov. 5 election but the latter alleged the election was "illegal and invalid," contending he was named for a term expiring Dec. 31, 1948.

The court held that if a vacancy in such a post occurs more than 30 days prior to a general election, it must be filled by election.

New Jersey, New York plan parkways

The state of New Jersey and Westchester County, N. Y., last week announced very extensive, long-range plans for freeway and parkway developments. Some actual construction has already started.

The first freeway in New Jersey already is under construction at Woodbridge Township in Middlesex County, and the grading of Route 4 Parkway is progressing rapidly in Clark and Cranford Townships, Union County. Officials predicted that the state would be criss-crossed by freeways in the future.

Westchester County officials list three jobs as No. 1 projects for construction this year if possible. They are a 10-mile extension of the Saw Mill River Parkway from Chappaqua to Katonah, the straightening and widening to six lanes of the two miles of the Bronx River Parkway from the Bronx boundary to Midland Avenue in Bronxville, and a new half-mile link between the Cross County and Hutchinson River parkways.

The state has earmarked $7,000,000 for this work, the money being part of the railroad grade-crossing funds diverted to highway construction. But the state superintendent of public works sought twice recently to obtain bids close to estimates for the Saw Mill River job and contractors were not sufficiently interested even to make offers.

Scheduled for early construction by the state is the elimination of the traffic circle at Hawthorne, where the Saw Mill River and Taconic State Parkways join. A cloverleaf bridge system will be developed, but cost estimates have risen from $250,000 originally to almost $1,000,000.

ENGINEERING SCHOOL NEWS

New name for Case School—Municipal engineering at Michigan —Road builders to endow civil engineering chair at North Carolina—3,133 foreign engineering students here

After next month the Case School of Applied Science, Cleveland, Ohio, will be known as the Case Institute of Technology. Changing the name of the institution, which came into being in 1880, was brought about by President William E. Wickenden and confirmed April 1 by an order from the Court of Common Pleas of Cuyahoga County. The reason given by Dr. Wickenden for changing the name was that the old one was out of line with the character of the present day institution.

The June graduating class will be the last to receive degrees from Case School of Applied Science. Alumni records show approximately 10,000 graduates and former students of the school, 7,000 of this number having received degrees.

Meantime no announcement has been made by the special faculty committee as to the successor to Dr. Wickenden, who retires as president of Case in August after 17 years of service.

The North Carolina State College School of Engineering at Raleigh, N. C., is expanding its facilities and revamping its curricula to meet the changing needs of the state's growing industrial enterprises, according to Dean J. H. Lampe, who says the college has no greater facilities to train some 3,000 engineering students than it had for 1,600 enrolled in the peak war years.

A new program and field of specialization—municipal engineering administration—has been approved by the board of regents at the University of Michigan. The new program will qualify students for the degree of Master of Science in Engineering. It will be for municipal and public administration under the direction of the department of civil engineering in cooperation with the Institute of Public Administration. The program will require satisfactory completion of at least 30 hours of course work balanced between the fields of civil engineering and public administration. Inquiries should be addressed to the office of Ralph A. Sawyer, dean of the Horace H. Rackham School of Graduate Studies at the University of Michigan.

The Carolina Road Builders Association will sponsor a campaign to raise at least $30,000 to endow a professorship in civil engineering at North Carolina State College. F. D. Cline, of Raleigh, is chairman of the committee. About one-third of the amount already has been raised.

Cline said the association felt the urgent need in both North and South Carolina for an increase in the number of trained engineers and thought it highly desirable that greater emphasis be given by engineering schools in training engineers especially for highway engineering. The fund is to be known as the "Frank Page Professorship" in honor of the late Frank Page, who served as chairman of the North Carolina Highway Commission for many years and who was instrumental in obtaining an unprecedented legislative appropriation of $50,000,000 for road building. Later he supervised the construction of a network of improved roads with these funds.

Besides Cline, members of the road builders committee are: W. Vance Baise, A. K. Barrus, F. J. Blythe, James E. Bryan, W. F. Brown, Jr., N. K. Dickerson, Sr., F. G. Heath, J. B. Hunt, Sr., George W. Hutchinson, James McKee, Warren J. Mann, Ralph Parks, J. Gregory Poole, K. Sloan, Walter L. Smith, Nello L. Teer, Jr., J. W. Thompson and Ira G. Tuttle.

Quick Reference—*"Minutemaps" have been installed by the Alabama Highway Department on highways between Montgomery and Birmingham, show the highway between the two cities, locate the driver exactly by means of the intersecting cross-bar, and give him total driving time from that point to destination. The signs have been placed along U.S. 31 and U.S. 78, facing traffic in each direction.*

The Department of State has announced a roster of 3,133 foreign students who are studying engineering in more than 300 universities and colleges in every state of the United States and the District of Columbia. Almost all of the foreign engineering students came to the United States to study at their own expense, or through scholarships provided by their respective governments. They represent nearly one-fifth of the 17,000 foreign students now in U. S. educational institutions.

A total of 937 of the foreign engineering students are from nine countries of the Middle and Far East which are planning modern industrial developments. The 596 students from the Middle East include 29 from Greece, 178 from Turkey, 287 from India, 47 from Egypt, 37 from Iran and 18 from Iraq. Engineering students from Turkey and India represent half of the number of students from those countries studying in the United States. The 341 engineering students from the Far East include 300 from China, 38 from the Philippines and three from Afghanistan.

Graduate engineers will be in demand for the next several years, guidance counsellors of Western New York secondary schools were told at the recent annual guidance counsellors' conference sponsored by the University of Buffalo. Dean Paul E. Mohn of the university's college of engineering, predicted a trend away from specialization in the engineering field.

The college of engineering of the Louisiana State University and the Agricultural and Mechanical College, Baton Rouge, has 1,312 students enrolled with 169 in the civil engineering curricula. These are sophomores, juniors and seniors. Freshmen are not in the college of engineering. The civil engineering department is a service department also for forestry, geology, etc., so there are 6,119 students by class rolls with 1,051 taking civil engineering courses. Some of these students are taking several of the courses.

Of the 1,034 students currently enrolled in the University of Buffalo school of engineering, Buffalo, N. Y., 919 are veterans, it was announced by Dr. Lewis A. Froman who is the director of veterans' educational services at the university.

OBITUARY

Lt. Col. William Samuel Fetherstonaugh, 73, a graduate of Ottawa University, and for many years divisional construction engineer on the Canadian National Railroad in Alberta, died April 18 at Victoria, B. C. Retiring from the C.N.R. in 1939, he was named supervising engineer on construction of R.C.A.F. airports in Manitoba and Saskatchewan. Colonel Fetherstonaugh served in the recent war and was awarded the Order of the British Empire for his work in laying out airports in France.

Ray J. Simon, 49, engineer for Goodyear Tire & Rubber Co., died in South Africa April 22. An employee of Goodyear for 30 years, he had served as construction engineer during installation of steam, water and air facilities at all of the company's new plants, including those in Mexico and Argentina. He had been in South Africa at the Uitenhage plant since last year.

George A. Merrill, 77, former construction engineer for Stone & Webster, Boston, died April 22 at Amesbury, Mass. He was a graduate of Massachusetts Institute of Technology, 1892, and after resigning from Stone & Webster, conducted his own business in Cambridge, Mass.

Edward Lippincott, 43, a construction engineer for the Shirley-Herman Construction Co., Buffalo, N. Y., died recently. He had done construction work all over the country and during the war was with Curtiss-Wright Corporation.

George Clark Sawyer, civil engineer, connected with the South Carolina Highway Department for the last 22 years, died at Columbia, S. C., April 19.

Col. L. M. Adams, a graduate of West Point, 1903, and port director, Nueces County Navigation District No. 1, Port of Corpus Christi, Tex., since 1930, died recently. He directed road and bridge work in the Philippines and in 1917 he was senior engineer at Fort Sheridan, and in the first world war was in charge of construction of the 10,000-bed Advance Section hospital at Remaucourt, France. Later he was district engineer at Galveston, Tex., and completed the seawall there.

Richard Craigh MacKubin Calvert, 74, Oxford, N. C., engineer, died April 22. He received his engineering degree from the University of Maryland and worked in South America and India as an engineer before going to Oxford a number of years ago as operator of the water and sewer system there. During World War I he served as a captain of the 33rd Engineers in France and in recent years was connected with the R. G. Lassiter Construction Co.

William Milnes Austin, 61, retired civil engineer who supervised construction of Generals' highway, Sequoia National Park, Calif.; Skyline Drive, Shenandoah National Park, Va.; and the Blue Ridge Parkway, died April 27 at Charlottesville, Va. For three years he was at San Jose, Costa Rica, directing work on the Pan-American and Isthmian highways.

John Taylor Chambers, 62, New Orleans civil engineer and contracting firm executive, died April 27 in Birmingham, Ala. He was president of the Lewis-Chambers Construction Co. He was graduated from Tulane University in 1906 and did special engineering work at Harvard University. He was a civil engineer in the Quartermaster Department of the U. S. Army in 1906 in charge of construction of Fort St. Philip, La., and assistant engineer of the sewerage and water board during the construction of the New Orleans purification plant. In 1932 he invented the Chambers bridge, a steel structure which excavates material at a great distance from the engine which powers it.

Richard C. Davidson, 74, a marine contractor, died at New London, Conn., recently. During the first World War he installed eight sets of marine railways at the Newburgh, N. Y., shipyard and in 1919 built a large marine railway installation at Providence, R. I.

MAJOR MEETINGS

American Society of Planning Officials and Association of State Planning and Development Agencies, Cincinnati, Ohio, May 9.

Society for Experimental Stress Analysis, annual meeting, Stevens Hotel, Chicago, Ill., May 15-17.

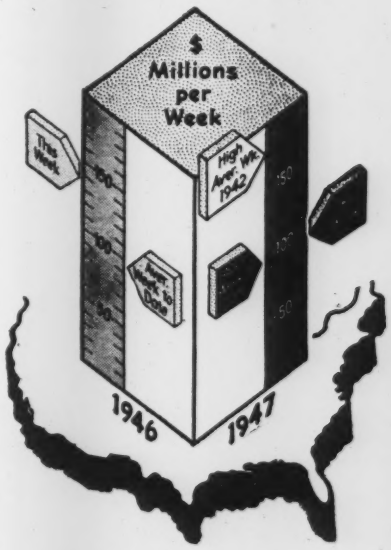
Associated General Contractors, spring meetings, governing and advisory boards, Olympic Hotel, Seattle, Wash., May 19-21.

American Shore and Beach Preservation Association, 21st annual meeting, The Berkeley Carteret, Asbury Park, N. J., May 27-28.

American Society for Testing Materials, 50th annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 16-20.

American Society of Engineering Education, annual meeting, University of Minnesota, Minneapolis, Minn., June 17-21.

CONSTRUCTION ACTIVITY



As Reported this week to... Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

	Week of May 8 1947	Cumulative 1947 (19 wks.)	Cumulative 1946 (19 wks.)
Federal	$17,157	$185,280	$213,475
State & Mun.	36,279	550,061	400,175
Total Public	$53,436	$735,341	$613,650
Total Private	41,724	1,104,646	1,149,227
U. S. Total.	**$95,160**	**$1,839,987**	**$1,762,877**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Dollar Volume (Thousands)

Type of Work	This Week	Cumulative 1947 (19 wks.)	Cumulative 1946 (19 wks.)
Waterworks ...	$1,601	$46,060	$37,691
Sewerage	6,634	37,997	23,146
Bridges	3,525	57,201	42,425
Highways	15,407	240,583	223,881
Earthwork, Waterways	5,707	98,027	126,924
Buildings, Public	13,800	181,727	103,769
Industrial ...	14,886	291,949	365,397
Commercial ..	17,891	658,292	709,212
Unclassified ...	15,709	228,151	130,432

NOTE: Minimum size projects included are: Waterworks and waterway projects, $22,500; other public works, $40,000; industrial buildings, $55,000; other buildings, $205,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1947 (19 wks.)	Cumulative 1946 (19 wks.)
NON-FEDERAL	$590,542	$340,565
Corporate Securities.	212,204	134,704
State and Municipal.	378,338	205,861
FEDERAL		158,320
**Total Capital ..... **	**$590,542**	**$498,885**

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost.	May'47	396.49	190.59
Building Cost....	May'47	299.61	161.96
Volume	Apr.'47	247	108

CONSTRUCTION REPORTS

Bids Asked — Low Bidders — Contracts Awarded

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager *J. A. MAHONEY, Reports* *E. R. BIGGERSTAFF, M. R. ROESSLER, Statistics*

WATER SUPPLY

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked May 12

N. S., Halifax—Secy. Dpt. Transport, Ottawa, Ont., rein.-con. aqueduct at Fairview. Approx. $75,000. Plans deposit $10.

Bids Asked May 14

La., Paterson—Town, W. Robt. Marion, City Hall, water purification plant, concrete, storage reservoir and watermain extens. $70,000. Plans deposit $10. Carnegie & Smith, 3000 A. Dalrymple Dr., Baton Rouge, engrs.

Okla., Cheyenne—City, H. V. Jobe, clk., 3 gravel walled wells, pump, equip., 50,000 gal. steel tank, watermain extens., valves, hydrants, etc. $30,000. Plans deposit $10. Alexander & Pollard, Terminal Bldg., Oklahoma City, engrs. CD 4/4/46—ENR 4/18/46.

S. C., Laurens—City, hauling, trenching, laying, backfilling approx. 41,000 ft. 16 in. c.i. raw water supply line. $300,000. Plans deposit $10. Wiedeman & Singleton, C. & S. Natl. Bank Bldg., Atlanta, Ga., engrs. CD 7/26—ENR 8/8.

Bids Asked May 15

†**S. C., Parris Island**—Officer Charge Constr. Pub. Wks. Depot, Parris Island, installing water pipeline at Marine Corps Recruit Depot, NOY 14222, Spec. 18291. Plans deposit $10.

N. S., Halifax—P. Serv. Comn. of Halifax, engr., 601 Barrington St., granite, concrete chlorinating plant addn., other imprvs., etc., for municipality. Plans deposit $50. CD 7/19—ENR 7/25.

Bids Asked May 19

Alta., Wainwright—D. Pawsey, municipality secy., Wainwright, 24,000 lin. ft. 4- to 10-in. c.i. water pipe and fittings, gate valves, fire hydrants, meters, service pipes and fittings, 100 g.p.m. vertical turbine pump and motor, 50,000 gal. elevated tank and tower, watermains, reservoir. Plans deposit $25. Haddin & Miles Ltd., 9 Argyle Court, Calgary, engrs. CD 10/31—ENR 11/14.

Ia., Rowan—City, WW sys. $34,000. E. L. Patera, Royal Union Bldg., Des Moines, engr.

Bids Asked May 20

Ala., Oneonta — City, c/o John Hendrix, mayor, erecting 40,000 ft. watermains and 500,000 gal. stand pipe. Over $22,500. Plans deposit $10. J. J. Harte Co., 715 Forsyth Bldg., Atlanta, Ga., engr. CD 3/26—ENR 4/17.

Bids Asked May 26

Fla., North Miami—Town, c/o town clk., water treatment plant and distr. sys. imprvs. Plans deposit $25. Extended date. W. Sydow, 2376 S.W. 21 St., Miami, engr. CD 4/22—ENR 4/24.

Bids Asked June 10

†**Tenn., Memphis**—U. S. Eng., P.O. Box 97, Zone 1, constructing May Street Pumping Station, incl. steel sheet piling, concrete substructure and masonry superstructure supported by timber bearing piles, heating, lighting, plumbing, electrical work, sewer line and manholes, operating equip., appurtenant work, Serial 40-041-47-118.

LOW BIDDERS

Fla., Miami—City, Apr. 24, lime burning plant at city water treatment plant, from Nu-Way Enterprises, 2196 N. W. 17 Ave. $262,408. CD 4/18.

N. C., Wilmington—City, Apr. 16, dual drive pump unit, from Lynchburg Foundry Co., Lynchburg, Sect. 1. $63,513. Bids 4/19 rejected. CD 4/2—ENR 4/10.

†**Tex., Fort Sam Houston**—U. S. Eng., Fort Sam Houston, water sprinkling sys. in repair and service bldgs. area, incl. c.i. watermains, etc., Inv. W-41-243-eng-47-184, from Texas Automatic Sprinkler Co., 1029 Milam Bldg., San Antonio. $214,000.

Tex., Borger—City, Apr. 22, sanitary sewerage sys. imprvs., from S. G. Stockton, 3508 Polk St., Amarillo. $42,000. Est. $40,000. CD 4/1—ENR 4/10.

Tex., Lubbock—City, Apr. 24, low pressure 30 and 36 in. c.i. water supply main, from R. H. Fulton, 2711 Avenue H, $661,114; 10 m.g. rein.-con. water storage reservoir, brick, concrete pump bldg., from Panhandle Constr. Co., Lubbock, $220,000. CD 4/8—ENR 4/10.

Wash., Seattle—City, County—City Bldg., 3 and James Sts., Zone 4, reservoir at Bow Lake, from State Constr. Co., 1750 19 Ave. S. $147,219. Est. $121,225. CD 10/31—ENR 11/14.

CONTRACTS AWARDED

Ala., Brewton—City, WW imprvs., waterlines, to Buchanan & Graves, 610 Third Ave. W., Birmingham, $74,496***water tank to Chicago Bridge & Iron Co., 1500 N. 50 St., Birmingham, $32,850***deep well, to Layne Central Co., First National Bank Bldg., Montgomery, $24,651. Grand total $131,997. Bids 4/22. CD 4/10.

Calif., Monterey—California Water & Telephone Co., 439 Tyler St., 30 in. steel pipeline, Owner builds. $60,000.

Ind., Huntingburg — Bd. P. Wks., J. F. Struckman, mayor, WW, incl. cooling tower, to Marley & Co., 3001 Fairfax Rd., Kansas City, Mo., $38,540. Est. $40,000. Bevington, Taggart & Fowler, Inc., 730 Ind. Pythian Bldg., Indianapolis, consult. engr.

Minn., Baudette—Village, M. Reed, clk., watermain extens., pumphouse, well equip., supply line from well outside village, to Nelson & Hafner, 740 E. Superior Sts., Duluth. $15,562. Bids 4/25. CD 4/10—ENR 4/17, under Sewers, etc.

Minn., North St. Paul—Minnesota Realty Co., 639 University Ave., St. Paul, 7,945 lin. ft. watermains, 7,257 lin. ft. sanitary sewers, etc. in Country Heights addn., to O. B. Ashbach & Sons, 2700 Hamline Ave. N., St. Paul. $34,901. Bids 4/11.

N. D., Mott—City, replacing old mains and installing addnl. mains, to Rue Constr. Co., 217 3 St., Bismarck. $22,600. Bids 4/7. Dakota Eng. & Constr. Co., Valley City, engr.

Okla., Perry—City, watermain extens. to Koller Constr. Co., Tradesmens Bank Bldg., Oklahoma City. $39,296. Est $40,000.

Tex., Houston—Braes Heights Development Co., c/o H. R. Hauck, 3800 Bell Fountain, 2 and 6 in. c.i. waterlines. Owner builds. $34,000. Williams & Johnson, 6800 Braes Blvd., engrs.

Wis., Milwaukee — Milwaukee Co., water storage tank at New House of Correction, town of Franklin, to Pittsburgh-Des Moines Steel Co., 38 S. Dearborn St., Chicago, Ill. $35,200. Bids 4/21. Wm. F. Cavanaugh, engr.

Puerto Rico, Santurce—Insular Aqueduct and Sewer Service, water supply system and sewers at San Juan, to Frederick Snare Corp., 233 Broadway, New York, 7, N. Y., U. S. A. CD 3/28—ENR 4/17.

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks $22,500; other public works $40,000; industrial buildings $55,000; other buildings $205,000.

Classes of Construction

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

† Federal Government
★ Project of $1,000,000 or over.
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

SEWERS, WASTE DISPOSAL

Construction Reports received since this section went to press will be found in Last Minute Construction Reports.

BIDS ASKED

Bids Asked May 12

N. Y., Mahopac—Town clk., Town Hall, incinerator plant. Plans deposit $10. Havens & Emerson, 233 Broadway, New York, Zone 7, engrs.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, repairing water lines at regulators on Bronx and Manhattan intercepting sewers in connection with Warda Island Sewage Treatment Works. CD 11/10/44—ENR 11/30/44.

N. Y., New York—President Bronx Boro, 207 Bronx County Bldg., 851 Grand Concourse, Zone 51, sewers, appurtenances, etc. in Calhoun and Katonah Aves., E. 177 and E. 235 Sts.; receiving basins, appurtenances, etc. Jerome, Intervale and Wilson Aves., E. 196 St. and Southern Blvd.

Bids Asked May 15

Okla., Lamont — City, F. K. Nesselrode, clk., City Hall, sanitary sewerage sys. and sewage disposal plant. $50,000. Plans deposit $15. Alexander & Pollard, Terminal Bldg., Oklahoma City, engrs. CD 3/18/46—ENR 4/4/46.

Pa., Media—Boro Media, sanitary sewers northern part of boro. Over $40,000. CD 10/11/45—ENR 11/1/45.

Bids Asked May 19

Alta., Wainwright—D. Pawsey, municipality secy., Wainwright, sewers and sewage disposal works, 72 manhole covers, pump. stations. Plans deposit $25. Haddin & Miles Ltd., 9 Argyle Court, Calgary, engrs.

La., Metairc—Garbage Dist. 1, 600 Helois Ave., utility bldg. at site of garbage incinerator, with truck scale, gasoline pump, storage tank, shell paving, in areas adjacent to lane. Plans deposit $10. Applewhite & Steinwinder, 424 Millandon St., New Orleans, engrs. CD 7/4—ENR 7/6.

Bids Asked May 20

Ala., Oneonta—City, c/o John W. Hendrix, mayor, sanitary sewer imprvs., incl. sewage collection sys. and treatment plant. Over $40,000. Plans deposit $10. J. J. Harte Co., 715 Forsyth Bldg., Atlanta, Ga., engr. CD 3/26—ENR 4/17.

Bids Asked May 23

B. C., Port Alberni—F. L. Kitto, city clk., City Hall, constructing, laying 36- to 42-in. interceptor sewer. CD 11/13—ENR 11/28.

Bids Asked May 27

Mass., Boston—City, City Hall Annex, sewerage works in Exchange Pl. between Kilby and Congress Sts., Boston Proper. Plans deposit $2. CD 5/12/44—ENR 6/1/44.

Wash., Enumclaw—City, City Hall, trunk sewerage sys., treatment plant and pump station. $200,000. Plans deposit $10. H. H. Sisler, City Hall, Kirkland, engr. CD 3/5—ENR 3/13.

LOW BIDDERS

Calif., Ceres—City, Box 3373, Ceres, Apr. 24, sanitary sewer lines and outfall sys., from Manuel Smith, 313 Syndicate Bldg., Oakland. $54,695.

Calif., Fresno—City, City Hall, Apr. 24, sewage treatment plant, appurtenances, from De Lucca & Son, 1745 Filbert S., San Francisco. $652,692. CD 4/16.

†**Calif., Mare Island**—Yards & Docks Annex, Navy Dpt., Arlington, Va., Apr. 30, brick, steel incinerator at Naval Hospital, NOY 14165, Spec. 18342, from Haas & Rothschild, 326 Merchants Exchange Bldg., San Francisco. $50,500. CD 4/4—ENR 4/10, under Public Bldgs.

Calif., Palo Alto—City, City Hall, Apr. 28, enlarging sewage works, No. 56-3, from Fred J. Early Jr. Co., 369 Pine St., San Francisco. $193,297. CD 4/24.

Calif., San Francisco—Dpt. P. Wks., 2828 City Hall, Apr. 30, Alemany Sewers extens., Sect. G, (Lower Island Creek Dist. Outlets), Spec. 19,775, from Healy-Tibbitts Constr. Co., 411 Brannan St. $242,702. CD 4/16.

Calif., Santa Rosa—City, City Hall, Apr. 29, trunk line sewers, from E. E. Lowell, 1331 Virginia St., Vallejo. $125,395. CD 4/16.

Ill., Chicago—Sanitary Dist. of Chicago, 910 S. Michigan Ave., Apr. 24, West-Southwest Sewage Treatment Works, Div. PP, from Overland Constr. Co., 2801 S. Kedzie St. $169,625. CD 4/16—ENR 4/24.